

method.

Disclosure of the Invention

To solve the above problems, the invention of claim 1 is a data-recording medium for storing data by dividing a recording area into at least first and second recording areas, characterized in that

first data recorded in the first recording area is unencrypted data and at least a part of second data recorded in the second recording area is encrypted data, and

compression rates of the first data and second data are made different from each other.

The invention of claim 13 is a discoid recording medium whose disk dimensions, track pitch, and minimum pit length are respectively specified in accordance with a standard, comprising

a first recording area allowing data for the specified maximum regeneration time to be recorded by storing first data in accordance with the lower limit of an allowable width of the track pitch and the lower limit of an allowable width of the minimum pit length;

a second recording area allowing second data to be recorded; characterized in that

the first data and second data are discontinuously recorded.

The invention of claim 27 is a data recording method for recording data in a recording medium shows recording area is divided into at least first and second

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recording second data in a second recording area discontinuously from the first data.

The invention of claim 30 is a data recording apparatus for recording data in a recording medium whose disk dimensions, track pitch, and minimum pit length are respectively specified in accordance with a standard, characterized in that

data for the specified maximum regeneration time is recorded in a first recording area by storing first data in accordance with the lower limit of an allowable width of the track pitch and the lower limit of an allowable width of the minimum pit length, and

second data is recorded in a second recording area discontinuously from the first data.

The invention of claim 31 is a data reproducing method for reproducing data from a data-recording medium in which a recording area is divided into at least first and second recording areas, first data recorded in the first recording area is unencrypted data, at least a part of second data recorded in the second recording area is encrypted data, compression rates of the first data and second data are made different from each other, and management information indicating whether the second encrypted data is recorded, comprising the steps of:

reproducing data from a data-recording medium;
determining whether the second encrypted data is recorded in accordance with reproduced management

information; and

decoding the second encrypted data when it is determined that the second data is recorded.

5 The invention of claim 35 is a data reproducing apparatus for reproducing data from a data-recording medium in which a recording area is divided into at least first and second recording areas, first data recorded in the first recording area is unencrypted data, at least a part of second data recorded in the second recording area is encrypted data, compression rates of the first data and second data are made different from each other, and management information indicating whether the second encrypted data is recorded, comprising:

10 reproducing means for reproducing data from the data-recording medium;

15 first signal processing means for processing first data; and

second signal processing means for processing second data; characterized in that

20 it is determined in accordance with reproduced information whether the second encrypted data is recorded and the second encrypted data is decoded by the second signal processing means when it is determined that the second data is recorded.

25 The invention of claim 36 is a data reproducing method for reproducing data from a discoid recording medium whose disk dimensions, track pitch, and minimum pit length

are respectively specified in accordance with a standard,
which is constituted of a first recording area allowing data
for the specified maximum regeneration time to be recorded
by storing first data in accordance with the lower limit
5 of an allowable width of the track pitch and the lower limit
of an allowable width of the minimum pit length and a second
recording area allowing second data to be recorded, and in
which the first data and the second data are discontinuously
recorded and the management information for designating
whether the second data is stored is recorded, comprising
10 the steps of:

reproducing data from the discoid recording
medium;

determining whether second encrypted data is
15 recorded; and

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decoding the second encrypted data when it is
determined that the second data is recorded.

The invention of claim 40 is a data reproducing
apparatus for reproducing data from a discoid recording
20 medium whose disk dimensions, track pitch, and minimum pit
length are respectively specified in accordance with a
standard, which is constituted of a first recording area
allowing data for the specified maximum regeneration time
to be recorded by storing first data in accordance with the
25 lower limit of an allowable width of the track pitch and
the lower limit of an allowable width of the minimum pit
length and a second recording area allowing second data to

be recorded, and in which the first data and the second data are discontinuously recorded and the management information for designating whether the second data is stored is recorded, comprising:

5 reproducing means for reproducing data from a data-recording medium;

first signal processing means for processing the first data;

10 second signal processing means for processing the second data; characterized in that

it is determined in accordance with reproduced management information whether second encrypted data is recorded and the second encrypted data is decoded by the second signal processing means when it is determined that the second data is recorded.

15 The invention of claim 41 is a discoid recording medium comprising at least:

a first lead-in area;

20 a first recording area formed at the circumferential side of the first recording area and allowing uncompressed data to be recorded;

a first lead-out area formed at the circumferential side of the first recording area;

25 a second lead-in area formed at the circumferential side of the first lead-out area;

a second recording area formed at the circumferential side of the second lead-in area and allowing

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compressed data to be recorded; and

a second lead-out area formed at the circumferential side of the second recording area.

5 The invention of claim 53 is a reproducing apparatus of a discoid recording medium comprising at least:

10 a first lead-in area, a first recording area formed at the circumferential side of the first lead-in area and allowing uncompressed data to be recorded, and a first lead-out area formed at the circumferential side of the first recording area; and

15 a second lead-in area formed at the circumferential side of the first lead-out area, a second recording area formed at the circumferential side of the second lead-in area and allowing compressed data to be recorded, and a second lead-out area formed at the circumferential side of the second recording area, characterized in that the first lead-in area is provided with;

20 a head for reading data and collateral information from the discoid recording medium in which collateral information including identification information showing whether the second recording area is present and start and end addresses of the first and second recording areas are recorded,

25 a first reproducing section to which an output signal is supplied from the head to reproduce the uncompressed data read from the first recording area of the

recording medium,

a second reproducing section to which an output signal is supplied from the head to reproducing the compressed data read from the second recording area of the recording medium; and

a control section for changing the first reproducing section and the second reproducing section in accordance with the collateral information read by the head.

The invention of claim 57 is a reproducing method of a discoid recording medium provided with at least

a first lead-in area, a first recording area formed at the circumferential side of the first lead-in area and allowing uncompressed data to be recorded, and a first lead-out area formed at the circumferential side of the first recording area, and

a second lead-in area formed at the circumferential side of the first lead-out area, a second recording area formed at the circumferential side of the second lead-in area to store compressed data, and a second lead-out area formed at the circumferential side of the second recording area, characterized in that the first lead-in area is provided with; comprising the steps of:

reading data and collateral information from the discoid recording medium in which the identification information showing whether the second recording area is present and collateral information including at least start and end addresses of the first and second recording areas

are recorded in the first lead-in area by a head; and
changing a first reproducing section to which an
output signal is supplied from the head and which reproduces
the uncompressed data read from the first recording area
of the recording medium and a second reproducing section
to which an output signal is supplied from the head and which
reproduces the compressed data read from the second recording
area of the recording medium in accordance with the
collateral information read by the head.

The invention of claim 64 is a discoid recording
medium comprising:

a first recording area in which the data of a first
compression rate in which at least first and second pieces
of copyright management information are embedded is
recorded; and

a second recording area in which the data of a
second compression rate different from the first compression
rate in which at least second copyright management
information is embedded is recorded.

The invention of claim 81 is a copy control method
of a recording medium comprising the steps of:

determining whether second copyright management
information is detected from the data read from the recording
medium provided with a first recording area in which the
data of a first compression rate in which at least first
and second pieces of copyright management information are
embedded is recorded and a second recording area in which

the data of a second compression rate different from the first compression rate in which at least second copyright management information is embedded is recorded;

determining whether first copyright management information is detected when the second copyright management information is detected; and

performing copy control of the data read from the recording medium in accordance with the first copyright management information when it is determined that the first copyright management information is detected.

Brief Description of Drawings

Figs. 1A and 1B are schematic diagrams for explaining a data-recording medium of the present invention;

Fig. 2 is a schematic diagram for explaining an area of a disk of first embodiment of the present invention;

Fig. 3 is a schematic diagram for explaining dimensions of a disk in the first embodiment of the present invention;

Fig. 4 is a schematic diagram showing a data format of collateral information in the first embodiment of the present invention;

Fig. 5 is a schematic diagram showing a data format of collateral information in the first embodiment of the present invention;

Fig. 6 is a block diagram showing a configuration of a mastering apparatus that is the first embodiment of the present invention;